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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/802,502  
Filing Date: March 17, 2004  
Appellant(s): BRAD ET AL.

Timothy R. Baumann (Registration No. 40,502)  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed December 17<sup>th</sup>, 2008 appealing from the Office action mailed October 4<sup>th</sup>, 2007.

**(1) Real Party in Interest**

The real party in interest is The Chamberlain Group, Inc., a Connecticut corporation having a primary place of business in Elmhurst, Illinois.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

Laird (US 2003/0118237 A1), Published on June 26th, 2003

Cofer (US 6,841,780 B2), Patented on January 11<sup>th</sup>, 2005

Fiene (US 6,218,962 B1), Patented on April 17<sup>th</sup>, 2001

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-19 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cofer et al. (US 6,841,780 hereinafter "Cofer") in view of Fiene (US 6,218,962).

As to claim 14, Cofer teaches a system for detecting an object (Col. 1, lines 10-12), comprising a light pattern generator projecting a light pattern beam across a defined area and producing a light pattern in the defined area (72 Fig. 7); a digital imaging device for detecting the light pattern produced by the light pattern generator (76 Fig. 7); and a controller having a memory with a stored image of a non-obstruction pattern detected in the defined area as produced by the light pattern generator (6 Fig. 1A); and the controller periodically compares said image stored in the memory with the light pattern detected by the imaging device produced by the light beam shining across the defined area and recorded by the digital imaging device (80 Fig. 7).

Cofer does not teach that the light pattern being a single substantially straight line in the absence of an obstruction. Fiene teaches an invention that uses a light source in combination with an automatic garage door opener, wherein the focused light can be in the shape of a line. Thus, Fiene line-shaped light reads on the claimed light pattern being a single substantially straight line. Therefore, it would have been obvious for one ordinarily skilled in the art at the time the invention was made to combine Cofer's teaching of projecting a pattern to detect intrusion in a garage system with Fiene's line-shaped light pattern since have a light source that only display a line pattern is well known.

As to claim 18, it is the method claim of claim 14. Claim 18 differs from claim 14 in that claim 18 further teaches the digital imaging device the optical pattern at an off-set angle to the projected beam (See Figs. 2A-2B).

As to claim 23, it differs from claim 18 in that claim 23 refers to the optical pattern discussed in claim 18 as optical illumination and claim 23 does not teach the digital imaging device the optical pattern at an off-set angle to the projected beam. Examiner's note: optical pattern and optical illumination refers to the same thing according to applicant's specification, thus claim 23 is analyzed in the same manner as claim 18. Please see above for details.

As to claim 15, Cofer teaches wherein when the controller detects a difference between the digital representation of the light pattern produced by detecting the defined area and the image stored in a memory, the controller initiates an alarm (Col. 5, lines 35-37).

As to claim 16, Cofer teaches wherein the image stored in the memory is of a substantially straight line produced by the pattern generator in absence of an object in the defined area (Figs. 5A-5C shows an example of projected pattern that is straight parallel lines and when an object is detected the lines are no longer straight).

As to claim 17, Cofer teaches wherein the digital imaging device is a CCD camera (Col. 4, line 3), which is installed at an offset angle from the laser device (Figs. 2A-2B).

As to claim 19, Cofer teaches generating an alarm signal responsive to the control signal (Col. 5, lines 35-37).

As to claim 24, it is the same as claim 19. Please see claim 19 for detail analysis.

Claims 1-12, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laird (US 2003/0118237) in view of Cofer further in view of Fiene.

As to claim 1, Laird teaches a barrier operator for moving a barrier between open and closed positions with respect to a barrier opening (a system that detects objects entering a garage door; Paragraph [0010], lines 1-3), comprising an imaging device to observe a portion of the barrier opening as illuminated by the optical pattern (CCD camera views the pattern; [0011], lines 2-4); and a controller coupled to the imaging device to sense when the optical pattern in the observed portion of the barrier opening changes, and generating a detection signal in response thereto (when an object enters the field of vision of the camera, it interrupts the viewing of the recognized pattern and the processor decides whether or not the object is an intrusion; if it is an intrusion, then a signal is sent to the head unit of the garage door operator; [0011], lines 12-22). A pattern, which is positioned on the side wall of the door ([0011], lines 1-4). However Laird does not teach the pattern used is generated using light projections.

Cofer teaches an apparatus for detecting objects by projecting one or more patterns onto the monitored area (Col. 1, lines 52-54). Thus Cofer's method of projecting patterns reads on the claimed light projections. Therefore, it would have been obvious for one ordinarily skilled in the art at the time the invention was made to combine Laird's system of object detection that enters a garage door with Cofer's method of pattern projection in order to be more sensitive to the presence and motions of 3-D objects (Cofer Col. 1, lines 49-52).



However, Laird and Cofer do not teach using a straight line as the light pattern. Fiene teaches an invention that uses a light source in combination with an automatic garage door opener, wherein the focused light can be in the shape of a line. Thus, Fiene line-shaped light reads on the claimed light pattern being a single substantially straight line. Therefore, it would have been obvious for one ordinarily skilled in the art at the time the invention was made to combine Laird and Cofer's teaching of projecting a pattern to detect intrusion in a garage system with Fiene's line-shaped light pattern since have a light source that only display a line pattern is well known.

As to claim 2, Laird teaches apparatus for periodically recording images detected by the imaging device ([0011], lines 8-9).

As to claim 3, Laird teaches wherein the controller periodically compares an observed pattern detected by the imaging device with a digital representation of a non-obstacle pattern previously detected and recorded ([0011], lines 17-19).

As to claim 4, Cofer teaches wherein the non-obstacle pattern is a substantially straight line (Figs. 5A-5C shows an example of projected pattern that is straight parallel lines and when an object is detected the lines are no longer straight).

As to claim 5, Laird teaches wherein the digital imaging device observes the barrier path at an angle to the scanning device (the camera is aimed onto the sidewall

wit the patter in such a way that the camera looks across the door opening to the pattern on the wall; [0011], lines 4-7).

As to claim 6, Laird teaches an alarm device to generate an alarm indication in response to the detection signal ([0011] lines 20-22).

As to claim 7, Cofer teaches wherein the alarm indication is an audible signal (sound an alarm; Col. 5, lines 35-37).

As to claim 8, Cofer teaches wherein the alarm indication is a visual signal (shut down the machine is something that can read as a visual signal or some other action could also be read as a visual signal; Col. 5, lines 35-37).

As to claim 9, a barrier drive unit for moving the barrier, and wherein the controller is responsive to the detection signal to control the barrier drive (barrier movement operator; [0005], line 6).

As to claim 10, Laird and Cofer teach wherein the light pattern generator comprises a source of electrical energy (Laird [0010], lines 6-8); a laser diode (Cofer Col. 3, line 59); and an optical lens to focus a beam generated by the laser diode (Cofer Col. 3, line 61).

As to claim 11, Laird teaches wherein the imaging device is a CCD camera (1 Fig. 1).

As to claim 12, Cofer teaches wherein the light pattern generator is disposed on the barrier (projecting one or more patterns onto the monitored area and in this case the monitored area is the side wall of the garage door; Cofer Col. 1, lines 52-54).

As to claim 21, it differs from claim 1 in that it does not teach generating a detection signal in response to the detection of an obstacle that claim 1 teaches. Please see claim 1 for detail analysis.

As to claim 22, it differs from claim 21 in that claim 22 further teaches of the light pattern can be enabling or disabling (Laird teaches the pattern detected when correlated with the stored images, if a match is not found then the object is considered to be an intrusion and thus a signal is sent to the head unit of the garage door operator; this clearly shows that the image retrieved is able to enable or disable the system; [0011], lines 12-22).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Laird in view of Cofer.

As to claim 13, Laird teaches a barrier movement operator ([0005], line 6). Laird does not expressly disclose that the barrier movement operator contains a head unit with a motor for moving the barrier. However, Examiner takes Official Notice that a motor for moving barriers is well known in the art. It would have been obvious at the time of the invention was made to one of ordinary skill in the art to add a motor to the barrier movement operator since Examiner takes official notice that motors are commonly used to move barriers.

Claims 20 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cofer in view of Laird.

As to claim 20, Cofer does not teach controlling a movement of a barrier in the defined area in response to the control signal. However, Laird teaches detecting objects by digital imaging device and also teaches a barrier movement operator. Thus, the barrier movement operator of Laird reads on the claimed controlling movement of a barrier. Therefore, it would have been obvious for one ordinarily skilled in the art at the time the invention was made to combine Cofer's object detection system with Laird's system of detecting objects in with in a barrier that contains a barrier movement operator because they are in the same field of invention.

As to claim 25, it is the same as claim 20. Please see above for detail analysis.

**(10) Response to Argument**

**ISSUE**

Appellants contend that Cofer and Fiene do not teach independent claim 14. In particular, Appellants contend that Fiene teaches away from the combination because the projected line pattern is not provided at all times or the majority of the day and consequently Fiene does not teach obstruction detection (Brief 10-11).

### **ANALYSIS**

Appellants contend that Fiene's projected line is not projected at all times (Brief 10-11). However, to project a line pattern at all times is not required by the language of claim 14 and there is no basis for reading this term into claim 14. According to the claim language, a light pattern is projected onto a defined area, wherein the pattern is a substantially straight line (claim 14), nowhere in the claim does it mention that the projection is projected at all times.

Appellants contend that Fiene does not teach obstruction detection (Brief 10-11). However, the Examiner relies on Cofer to teach obstruction detection using a projected pattern (Col. 1, lines 52-54) and only relying on Fiene to teach that light projection could be a line.

Appellants contend that Cofer and Fiene would not have been an obvious combination. However, the question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739 (2007). The examiner recognizes that obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention

where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). However, while a suggestion or motivation to combine references is an appropriate method for determining obviousness, it is just one of a number of valid rationales for doing so. The Court in KSR identified several exemplary rationales to support a conclusion of obviousness which are consistent with the proper "functional approach" to the determination of obviousness as laid down in *Graham*. KSR, 550 U.S. at \_\_\_, 82 USPQ2d at 1395-97. See MPEP § 2141 and § 2143. In this case, while the primary reference Cofer exemplifies plurality of patterns, Cofer does not limit himself to particular type of projected light pattern (Col. 9, line 49) and thus it is open to modifications. One such pattern that is useful is that taught by Fiene. The examiner makes a simple substitution to include the projected line pattern taught by Fiene in place of the projected light pattern taught by Cofer to yield a predictable result since it would have been obvious for one ordinarily skilled would have replaced the projected pattern of Cofer with the projected line pattern of Fiene in order to make a simpler object detection system using a line.



**CONCLUSION**

Appellants have not shown that Fiene would not be combinable with Cofer.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Claire X. Wang (Examiner, Art Unit 2624)

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